

## CLAIMS

What is claimed is:

1. A method of managing virtual documents on behalf of users, wherein a given virtual document has associated therewith an attribute file, the method comprising:

- a) establishing a user database on a network-connected computer, said user database having a set of categories;
- b) receiving at least one of said virtual documents and its associated attribute file at said network-connected computer from an interactive television partner computer;
- c) categorizing said at least one virtual document according to its associated attribute file; and
- d) storing information from said at least one virtual document in one of said set of categories within said user database according to information within said attribute file.

2. The method of claim 1 wherein at least one of said virtual documents is a merchant coupon.

3. The method of claim 1 wherein at least one of said virtual documents is selected from the group consisting of: merchant coupons, product warranties, sales receipts, product instructions, service instructions, rebates, gift certificates, product registration cards, event tickets, credit card statements, bank statements, and recipes.

4. The method of claim 1 wherein said user database is associated with an individual interactive television user.

5. The method of claim 4 and further comprising sending one of said virtual documents from the interactive television partner computer to said network-connected computer upon a request sent from the interactive television user to the interactive television partner computer.

6. The method of claim 5 wherein the interactive television user requested the virtual document from the interactive television partner computer by selecting a banner ad displayed at the user's interactive television receiver.

7. The method of claim 6 wherein the interactive television user requested the virtual document by selecting a button within said banner ad.

8. A database host for managing virtual documents on behalf of users, wherein a given virtual document has associated therewith an attribute file, the database host connected to a network and comprising:

- a) a user database having a set of categories;
- b) a network interface connected to said network, the network interface configured to receive electronic messages from an interactive television partner computer, said messages comprising said virtual documents;
- c) a main server and associated software connected to said network interface and configured to receive one of said virtual documents and to categorize said virtual documents according to data provided in the virtual document's associated attribute file, thereby parsing information elements from said virtual documents; and

d) a database manager connected to said user database and said main server, said database manager configured to receive said information parsed by said main server and to store said information in categories in said user database according to parsing instructions from the main server.

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9. The database host of claim 8 wherein said network interface, said main server, and said database manager are all processes running on a single server unit.

10. The database host of claim 8 wherein at least one of said virtual documents is a merchant coupon.

11. The database host of claim 8 wherein at least one of said virtual documents is selected from the group consisting of: merchant coupons, product warranties, sales receipts, product instructions, service instructions, rebates, gift certificates, product registration cards, event tickets, credit card statements, bank statements, and recipes.

12. The database host of claim 8 wherein said user database is associated with an individual interactive television user.

13. The database host of claim 8 wherein said electronic messages further include user preference information from said users.

14. The database host of claim 8 and further comprising a web server connected to said main server and configured to display web pages accessible by said other network-connected computers.

5 15. The database host of claim 14 wherein said web server is a software process running on the same server unit as said main server.

16. A method of managing virtual documents on behalf of users, wherein a given virtual document has associated therewith an attribute file, the method comprising:

- 10 a) establishing a user database on a network-connected computer, said user database having a set of categories;
- b) receiving a request for a virtual document at said network-connected computer from an interactive television partner computer;
- 15 c) retrieving and categorizing said at least one virtual document according to its associated attribute file at the network-connected computer; and
- d) storing information from said at least one virtual document in one of said set of categories within said user database according to information within said attribute file.

20 17. The method of claim 16 wherein at least one of said virtual documents is a merchant coupon.

18. The method of claim 16 wherein at least one of said virtual documents is selected from the group consisting of: merchant coupons, product warranties, sales receipts, product instructions, service instructions, rebates, gift certificates, product registration cards, event tickets, credit card statements, bank statements, and recipes.

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19. The method of claim 16 wherein said user database is associated with an individual interactive television user.

20. The method of claim 19 wherein the interactive television user requests the virtual document by selecting a banner ad displayed at a user's interactive television receiver.

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21. The method of claim 20 wherein the interactive television user requests the virtual document by selecting a button within said banner ad.

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22. A database host for managing virtual documents on behalf of users, wherein a given virtual document has associated therewith an attribute file, the database host connected to a network and comprising:

a) a user database having a set of categories;

b) a network interface connected to said network, the network interface

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configured to receive electronic messages from an interactive television partner computer, said messages comprising said virtual documents;

c) a main server and associated software connected to said network interface and configured to receive a request for one of said virtual documents and to retrieve and

categorize said virtual documents according to data provided in the virtual document's associated attribute file, thereby parsing information elements from said virtual documents; and

5           d)     a database manager connected to said user database and said main server, said database manager configured to receive said information parsed by said main server and to store said information in categories in said user database according to parsing instructions from the main server.

10           23.    The database host of claim 22 wherein said network interface, said main server, and said database manager are all processes running on a single server unit.

          24.    The database host of claim 22 wherein at least one of said virtual documents is a merchant coupon.

15           25.    The database host of claim 22 wherein at least one of said virtual documents is selected from the group consisting of: merchant coupons, product warranties, sales receipts, product instructions, service instructions, rebates, gift certificates, product registration cards, event tickets, credit card statements, bank statements, and recipes.

20           26.    The database host of claim 22 wherein said user database is associated with an individual interactive television user.

27. The database host of claim 22 wherein said electronic messages further include user preference information from said users.

28. The database host of claim 22 and further comprising a web server connected to said main server and configured to display web pages accessible by said other network-connected computers.

29. The database host of claim 28 wherein said web server is a software process running on the same server unit as said main server.

30. A method of distributing a virtual document to a user, wherein the virtual document has associated therewith an attribute file, the method comprising:

establishing a user database on a host computer that is connected to a network, said user database having a set of categories;

in response to a request from a user, receiving a virtual document and an associated attribute file at the host computer from a partner computer that is connected to the network;

categorizing the virtual document according to its associated attribute file;

transmitting the virtual document to the user through the network;

receiving and storing the virtual document at a user computer; and

downloading the virtual document onto a smart card device.

31. A method according to claim 30, wherein the step of transmitting the virtual document is performed by sending an e-mail to the user.

32. A method according to claim 30, wherein the user computer is a personal digital  
5 assistant.

33. A method according to claim 30, wherein the user computer is a personal computer.

10 34. A method according to claim 30, wherein the step of downloading the virtual document onto the smart card device is performed in response to the connection of the smart card device to a smart card interface.

15 35. A method according to claim 30, wherein the virtual document comprises a merchant coupon.

36. A method according to claim 35, further including the step of:  
redeeming the virtual document at a merchant location by connecting the smart to  
a merchant smart card interface.

20 37. A method according to claim 36, wherein the merchant smart card interface comprises a personal digital assistant.



38. A method of distributing a virtual document to a user, wherein the virtual document has associated therewith an attribute file, the method comprising:

establishing a user database on a host computer that is connected to a network,  
said user database having a set of categories;

5 receiving a request for a virtual document from a user, the request forwarded to the host computer from a partner computer that is connected to the network;

retrieving the requested virtual document and categorizing it in the host computer according to its associated attribute file;

transmitting the virtual document to the user through the network;

10 receiving and storing the virtual document at a user computer; and

downloading the virtual document onto a smart card device.

39. A method according to claim 38, wherein the step of transmitting the virtual document is performed by sending an e-mail to the user.

40. A method according to claim 38, wherein the user computer is a personal digital assistant.

41. A method according to claim 38, wherein the user computer is a personal  
20 computer.

42. A method according to claim 38, wherein the step of downloading the virtual document onto the smart card device is performed in response to the connection of the smart card device to a smart card interface.

5 43. A method according to claim 38, wherein the virtual document comprises a merchant coupon.

44. A method according to claim 43, further including the step of:  
redeeming the virtual document at a merchant location by connecting the smart  
10 card to a merchant smart card interface.

45. A method according to claim 44, wherein the merchant smart card interface comprises a personal digital assistant.

15 46. A computer program product for use with a general purpose computer, the product encoded with instructions for commanding the computer to perform a series of steps including:

receiving a virtual document and an associated attribute file at a user computer  
from a host computer that is connected to a computer network;

20 extracting contact information from the associated attribute file;

extracting at least one date from the associated attribute file;

storing the extracted contact information in a contact database corresponding to a personal information manager program on the user computer;

storing the extracted at least one date in a calendar database corresponding to the personal information manager program on the user computer;

storing the virtual document in a synchronization queue on the user computer; and

downloading the virtual document from the synchronization queue on the user

5 computer to a smart card device.

47. A computer program product according to claim 46, wherein the virtual document and associated attribute file are received by the host computer in the form of an e-mail message.

10 48. A computer program product according to claim 46, wherein the virtual document is a merchant coupon.

15 49. A computer program product according to claim 48, wherein the contact information comprises a merchant name, a merchant address, a merchant telephone number, and a merchant web site URL.

50. A computer program product according to claim 48, wherein the at least one date corresponds to an expiration date for the coupon.

20 51. A computer program product according to claim 50, further encoded with instructions for commanding the computer to create a reminder corresponding to the expiration date in the calendar database corresponding to the personal information manager program on the user computer.

52. A computer program product according to claim 46, further encoded with instructions for commanding the computer to download the virtual document from the synchronization queue on the user computer to the smart card device in response to the
- 5 connection of the smart card device to a smart card interface, which is connected to the user computer.